

REMARKS

Claims 16, 63-87, 89-103 and 131-132 are pending in the application. Claims 1-15, 17-62, 88, 104-130, and 133-160 were canceled in previous responses.

Reconsideration and allowance of the claims are respectfully requested in view of the amendments and the following remarks.

I. Rejection of Claims 63-87 and 89-103 Under 35 U.S.C. 112

The Examiner rejected claims 63-87 and 89-103 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Specifically, the Examiner stated that the “amendment ‘and a top portion of the chamber cooperate to define a generally flat, continuous and unobstructed flow channel’ and ‘effecting generally laminar flow of gas though the flow channel intermediate the top portion of the chamber and the wafer carrier’ the underlined part is a new matter.” Office Action, page 2, paragraph 2.

It is respectfully submitted that new matter was not added by any of the current or previous amendments to the claims including the amendments to claim 63 made in the previous response filed on February 6, 2009. Support for the amendments may be found in the specification of the present application at least at, for example, Figure 5, which clearly illustrates a narrow gas channel 130 of dimension B defined by the wafer carrier 116 and the top 131 of the reactor that directs gas outwardly (see also, e.g., last sentence of ¶[0088] of the present application as published). Furthermore, support may be found at ¶[0093]-[0094], which state, in part: “the suppression of thermal convection is accomplished by using the narrow flow channel 130, so that gas is forced in the desired direction. . . [0094] The distance between the upper surface of the wafer carrier 116 and the top of the chamber 111 is designated as dimension B. . . .”

Accordingly, it is respectfully requested that the rejection under 35 U.S.C. 112 of independent claim 63, as well as its dependent claims 64-87 and 89-103, be withdrawn.

II. Rejection of Claims 16 and 131-132 under 35 U.S.C. 102(e) or, in the alternative, under 35 U.S.C. 103(a)--Tabata

Independent claim 16 has been amended to recite, in part: "wherein a wafer carrier is disposed within each one of the plurality of chambers, wherein the wafer carrier and a top portion of each chamber cooperate to define a generally flat, continuous and unobstructed flow channel such that rotating the wafer carrier effects generally laminar flow of gas through the flow channel intermediate the top portion of each chamber and the wafer carrier." Also, independent claim 131 has been substantially amended in the same manner. No new matter has been added. As discussed above, support for the amendments may be found at least at, for example Figure 5 and ¶¶[0088], [0093]-[0094] of the present application as published.

It is respectfully submitted that Tabata completely fails to disclose all the elements of independent claims 16 and 131 as amended. More particularly Tabata fails to disclose or make obvious, at least "wherein the wafer carrier and a top portion of each chamber cooperate to define a generally flat, continuous and unobstructed flow channel," as recited in claims 16 and 131 of the present application. Accordingly, it is respectfully requested that this rejection be withdrawn. Similarly, because claim 132 depends from claim 131, it is respectfully requested that the rejection of this dependent claim also be withdrawn.

III. Rejection of Claims 63-67, 71-75, 78-84, 87, 89-93 and 96 under 35 U.S.C. 102(b), or in the alternative, under 35 U.S.C. 103(a)--Jurgensen

Claims 63-67, 71-75, 78-84, 87, 89-93 and 96 were rejected under 35 U.S.C. 102(b) as being anticipated by, or in the alternative, under 35 U.S.C. 103(a) as obvious over Jurgensen et al. (WO 02/18672 or US Pub. 2004/0003779, hereinafter "Jurgensen").

The Examiner stated (referring to Jurgensen): "it is noted that the gas inlet 49 is a part of the top portion of the chamber" (page 8, last sentence of Response to Arguments section of office action). However, Jurgensen discloses in Figure 1 that the gas admission element 6 is an overall two-part configuration having a core, which forms a section 49 which projects into the process chamber 1 and is frustoconical in shape. That

is, section 49 projects into, and therefore is not a part of the top portion as suggested by the Examiner. The projection of section 49 into the top of the chamber teaches away from a “flat, continuous and unobstructed” flow channel that would be defined between the carrier plate 3 and a top portion of the chamber because the projecting section 49 would disrupt the flow of gas. Unlike Jurgensen, the specification of the present application describes that gas flow resistance may be reduced and a higher degree of laminar flow through the chamber may be obtained with a more direct (and thus less contorted) and unobstructed route for a less turbulent flow (see, e.g. ¶[0098] of the present application). Jurgensen fails to disclose, teach or suggest, at least, “providing a chamber containing a wafer carrier wherein the wafer carrier and a top portion of the chamber cooperate to define a generally flat, continuous and unobstructed flow channel (emphasis added),” as recited in independent claim 63. Accordingly, it is respectfully requested that this rejection of independent claim 63 be withdrawn.

The dependent claims all depend upon independent claim 63. Thus, it is respectfully requested that the rejection of all of the dependent claims be withdrawn.

IV. Rejection of claims 94-95 under 35 U.S.C. 103(a)—Jurgensen in view of MacLeish

Claims 94-95 were rejected under 35 U.S.C. 103(a) as being unpatentable over Jurgensen in view of MacLeish et al (US 6113984, hereinafter “MacLeish”).

Claims 94-95 depend from claim 63. For the reasons discussed above with respect to independent claim 63, Jurgensen fails to disclose teach or suggest all the elements of independent claim 63. MacLeish fails to make up for the deficiencies of Jurgensen. Therefore, it is respectfully requested that, at least for the reason of dependency, this rejection be withdrawn.

V. Rejection of claims 97-103 under 35 U.S.C. 103(a)—Jurgensen in view of Van de Walle and Hirooka

Claims 97-103 were rejected under 35 U.S.C. 103(a) as being unpatentable over Jurgensen in view of Van de Walle et al (20020054745, hereinafter “Van de Walle”). Also, Claims 97-103 were rejected under 35 U.S.C. 103(a) as being unpatentable over Jurgensen in view of Van de Walle and further in view of Hirooka (US 4812331, hereinafter “Hirooka”).

Claims 97-103 depend from claim 63. For the reasons discussed above with respect to independent claim 63, Jurgensen fails to disclose teach or suggest all the elements of independent claim 63. Van de Walle and Hirooka fail to make up for the deficiencies of Jurgensen. Therefore, it is respectfully requested that, at least for the reason of dependency, this rejection be withdrawn.

General

It is respectfully submitted that none of the cited references, taken either alone or in combination with one another, either disclose or make obvious, at least, a method for chemical vapor deposition comprising “providing a chamber containing a wafer carrier wherein the wafer carrier and a top portion of the chamber cooperate to define a generally flat, continuous and unobstructed flow channel; . . . effecting generally laminar flow of gas through the flow channel intermediate the top portion of the chamber and the wafer carrier (emphasis added),” as recited in claims 16, 63 and 131 of the present application.

Applicant respectfully submits that the claims are allowable. As described in the specification of the present application according to one or more embodiments, gas flow resistance may be reduced and a higher degree of laminar flow through the chamber may be obtained with a more direct (and thus less contorted) and unobstructed route for a less turbulent flow.

CONCLUSION

It is respectfully submitted that all of the pending claims are in condition for immediate allowance. Reconsideration and an early allowance are therefore respectfully requested.

If the Examiner has any questions or concerns, a telephone call to the undersigned at (949) 752-7040 is welcomed and encouraged.

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 August 12, 2009
Jean F. Heuler Date of Signature

Respectfully submitted,



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